CLAIMS

1. A search circuit for a target value, comprising:

5   a target value storage section which stores a target value;

a search control section which extracts the target value from the target value storage section and which sets, as a tentative target value, a value obtained

10   by subtracting a predetermined value from the extracted target value or adding the predetermined value thereto;

a binary search executing section which limits a searching range to a certain region including the tentative target value by binary search; and

15   a sequential search executing section which searches for the target value in an increasing or decreasing direction from the tentative target value which is a start point in the limited searching range by sequential search.

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2. A method of searching for a target value, comprising:

a step of storing a target value;

a step of extracting the target value, and

25   setting, as a tentative target value, a value obtained by subtracting a predetermined value from the extracted target value or adding the predetermined value thereto;

a step of limiting a searching range to a certain region including the tentative target value by binary

30   search; and

a step of searching for the target value in an increasing or decreasing direction from the tentative target value which is a start point in the limited searching range by sequential search.

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3. A semiconductor test apparatus comprising:

a reference clock generation unit which generates a reference clock signal;

a test pattern generation unit which outputs a
10 test pattern signal applied to a semiconductor device in synchronization with the reference clock signal;

a timing generation unit comprising a variable delay circuit which delays the test pattern signal by a predetermined time; and

15 a comparison unit which compares a response output signal output from the semiconductor device with an expected value pattern, the semiconductor test apparatus further comprising: a search circuit comprising:

20 a storage section which stores a target value;

a delay amount measurement section which obtains a delay amount measured value of the test pattern signal;

a tentative target value calculation section which extracts the target value from the storage section
25 and which calculates, as a tentative target value, a value obtained by subtracting a predetermined value from the extracted target value or adding the predetermined value thereto;

a binary search executing section which applies a
30 delay amount set value of the variable delay circuit in

such a manner as to limit a searching range to a certain region including the tentative target value by binary search;

5   a sequential search executing section which applies the delay amount set value of the variable delay circuit in such a manner as to search for the target value in an increasing or decreasing direction from the tentative target value which is a start point in the limited searching range by sequential search;

10   a VD setting section which sets a delay amount of the variable delay circuit; and

a search control section which sends the tentative target value and the delay amount measured value to the binary search executing section and which

15   sends the delay amount set value from the binary search executing section to the VD setting section to set the delay amount of the variable delay circuit and which sends the delay amount set value, the target value, and the delay amount measured value, obtained by limiting, to

20   the sequential search executing section, when the searching range is limited to the certain region including the tentative target value and which sends the delay amount set value from the sequential search executing section to the VD setting section to set the

25   delay amount of the variable delay circuit.

4.   The semiconductor test apparatus according to claim 3, wherein the tentative target value calculation section subtracts or adds a value indicating a region of

30   half of the searching region of the sequential search,

which is the predetermined value, with respect to the target value, and calculates the subtracted or added value as the tentative target value.